

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
2 September 2004 (02.09.2004)

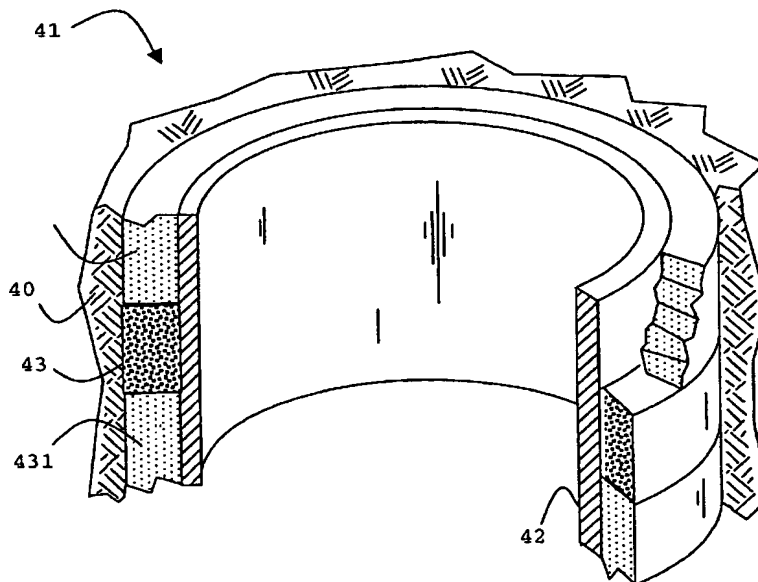
PCT

(10) International Publication Number
WO 2004/074621 A3

- (51) International Patent Classification⁷: **E21B 33/10**, 23/06, 33/12
- (21) International Application Number: PCT/GB2004/000575
- (22) International Filing Date: 20 February 2004 (20.02.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
0303881.7 20 February 2003 (20.02.2003) GB
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- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR MAINTAINING ZONAL ISOLATION IN A WELLBORE



(57) Abstract: The invention concerns a system or a method for maintaining zonal isolation in a wellbore. According to the invention, the system comprises, at a specific location along said wellbore, a sealing element (43), said sealing element being able to deform both during and after placement and is maintained after placement under compression through a pressurising fluid or by confinement in a volume (431).



AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

- (84) **Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,

TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

- (88) **Date of publication of the international search report:**

18 November 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB2004/000575

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 E21B33/10 E21B23/06 E21B33/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 E21B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2 231 282 A (NORRIS) 11 February 1941 (1941-02-11) page 2, left-hand column, lines 45-72 -----	1,2,6, 13, 15-18, 34,36
X	US 6 286 603 B1 (PARENT) 11 September 2001 (2001-09-11) column 2, line 51 - line 62 column 4, line 39 - line 41 ----- -/-	1,2,13, 15-18, 34,36, 37,41, 47,51,53

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

7 June 2004

Date of mailing of the international search report

17. 09. 2004

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB2004/000575

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 041 858 A (ARIZMENDI) 28 March 2000 (2000-03-28) column 3, line 34 - line 45 column 3, line 58 - line 61 column 4, line 26 - line 45 column 5, line 35 - line 46 column 6, line 34 - line 36 -----	1,4, 6-10, 15-18, 35,36,54
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X	US 1 336 738 A (FLETCHER) page 1, line 98 - line 106 -----	1,23,31, 36,41
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P,X	US 2003/196820 A1 (PATEL) 23 October 2003 (2003-10-23) paragraph [0027] -----	1,34,37, 47

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2004/000575

Box II Observations where certain claims were found unsearchable (Continuation of Item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-54

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-54

System and method for zonal isolation

2. claims: 55-56

Wellbore fluid

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB2004/000575

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